Real Estate Finance 101

Jones Lang LaSalle

4 - 5 May 04

Overview

- Sources & Uses
- Project Development Gap
- Common Constraints
  - Debt Coverage Ratio (DCR)
  - OMB Scoring
  - Loan Limitations
- Cash Waterfall
- Page Two

Sources & Uses

Sources

Capital Sources

Private Loan $15.5M

Government Loan $10.0M

Successful Offeror's Equity $1.3M

Other Sources

BAH $59.5M

Interest Income $5.6M

TOTAL $91.9M

Uses

Operating Expenses $17.7M

Development Costs $43.6M

Financing Costs $25.9M

Startup Costs $0.5M

Reserves $1.4M

Capital Expenses $0.9M

Reinvest. Acct. Deposit (Yr 11) $1.9M

TOTAL $91.9M

Sources = Uses

*Illustrative Example

Sources: Successful Offeror Equity

- Equity is the amount of cash put into the project by the SO. Under privatization, this amount is typically equal to 5% of the private loan.

- Preferred Return – The annual return that the SO expects to be paid in return for his cash contribution.

- Cashflow split – If excess cash exists after the SO's preferred return has been paid, the SO expects to receive a % of the excess cash. This % is referred to as the SO's "split" and is capped at 50% by the RFP.

Sources: Private Debt

Loan Amount	49,750,000					
Interest	7.50%					
Amort. Period	30					
Int. Only Period	5					
Fees	1.50%					
		Beginning	**TOTAL**	**Interest**	**Principal**	**Ending**
	Periods	**Balance**	**Payment**	**Payment**	**Payment**	**Balance**
	1	49,750,000	3,731,250	3,731,250	-	49,750,000
	2	49,750,000	3,731,250	3,731,250	-	49,750,000
	3	49,750,000	3,731,250	3,731,250	-	49,750,000
	4	49,750,000	3,731,250	3,731,250	-	49,750,000
	5	49,750,000	3,731,250	3,731,250	-	49,750,000
	6	49,750,000	4,212,394	3,731,250	481,144	49,268,856
	7	49,268,856	4,212,394	3,695,164	517,230	48,751,626
	8	48,751,626	4,212,394	3,656,372	556,022	48,195,604
	32	14,108,682	4,212,394	1,058,151	3,154,243	10,954,439
	33	10,954,439	4,212,394	821,583	3,390,811	7,563,628
	34	7,563,628	4,212,394	567,272	3,645,122	3,918,506
	35	3,918,506	4,212,394	293,888	3,918,506	-

During an Interest Only Period, principal payments are not made. Hence, the outstanding balance on the loan remains the same.

During the first few years, most of each payment is applied toward the interest owed. During the final years of the loan, payment amounts are applied almost exclusively to the remaining principal.

Sources: GDL

- Government Direct Loan
- Loan terms are now defined in RFP Sec 3.2.3.3
- No longer a scoring game

“The maximum allowable Government Direct Loan for this project is $46.8 million.”

“The Government Direct Loan shall have a 40-year term with a 10-year principal payment deferral period. Interest shall be payable monthly (i) at a rate of 3.5% per annum during the first ten years of the term, and (ii) at a rate of 5.0% per annum during years 11 thru 40 of the term.”

Sources: What is NOI?

- NOI = Net Operating Income
- NOI = Net Rental Income – Operating Expenses
- NOI = Income left over after all operating expenses have been paid

Calculating NOI

	/ unit/month
Gross Rental Income	**$1,428**
Vacancy/Credit Loss (5%)	($71)
Net Rental Income	**$1,357**
Operating Expenses (Utilities, Solid Waste Management, Administration, Salaries/Personnel, Maintenance/Repair, Insurance, Fire/Police Reimbursement, etc.)	($358)
Replacement Reserve	($21)
Management Fee	($56)
Net Operating Income (NOI)	**$922**

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
Page: 1 of 6

SOURCES AND USES SCHEDULE

Name	NPV at 5.10 %	CashFlow	2005	2006	2007
SOURCE OF FUNDS					
NOI Rental Units	$339,014,102	$1,227,497,635	$11,880,246	$12,848,401	$13,533,404
Developer Equity	$13,869,391	$14,576,730	$14,576,730	$0	$0
Differential Payments	$0	$0	$0	$0	$0
First Mortgage Proceeds	$97,355,797	$117,069,596	$19,641,178	$15,624,764	$18,503,647
Last Year Gain Used for Construction	$0	$0	$0	$0	$0
Interest Earned on Unused First Mortgage Proceeds	$7,645,436	$9,132,590	$0	$2,651,958	$2,211,134
Construction Loan	$69,533,029	$102,533,109	$0	$0	$0
Second Mortgage Proceeds	$71,024,723	$116,798,350	$0	$0	$0
Replacement Res. Widthdrawal	$16,639,963	$68,729,716	$0	$0	$0
Reinvestment Account Withdrawal	$0	$0	$0	$0	$0
Sale of Property	$0	$0	$0	$0	$0
Total Sources	$615,082,442	$1,656,337,726	$46,098,154	$31,125,123	$34,248,185
USE OF FUNDS					
Total Const Cost Net of Profit	$220,507,021	$283,043,354	$37,458,418	$22,485,387	$25,608,449

Calculating Maximum Loan Amt.

	Monthly Per Unit	
Weighted Average BAH	$1,186	
Less: Vacancy	($24)	
	$1,162	
Deductions: Utilities Allowance		($201)
Operating Expenses		($480)
Replacement Reserve		($21)
Net Operating Income	$460	
Annual NOI (per unit) $5,520		
Number of end-state units		x 2,411
Estimated Annual NOI		$13,308,720

- **An annual stabilized NOI = $13.3 million and a DCR=1.20, affords an annual payment of $11.1 million**
- **An annual payment of $11.1 million buys a $137.7 million loan with a 7.0% interest rate**

BAH / OpEx Comparison

Existing Units Data				
	Base 1	**Base 2**	**Base 3**	**Base 4**
BAH (net of Util. Allow.)	**$697**	**$1,157**	**$822**	**$759**
Utilities (Water/Sewer)	($103)	($109)	($22)	($52)
Insurance	($90)	($25)	($13)	($9)
Project Management (fee)	($30)	($46)	($25)	($39)
O&M	($102)	($248)	($221)	($135)
Other	($7)	($4)	($4)	($12)
Taxes	($70)	($125)	($41)	($123)
Rep Res	($21)	($25)	($21)	($17)
TOTAL Expenses	**($423)**	**($582)**	**($347)**	**($387)**
NOI	**$275**	**$575**	**$475**	**$372**

Uses: The Development

- Most significant use is development/renovation
- RS Means
- Marshall & Swift
- Market Verification
- “Adjustments”

Air Force Base

		2 bdrm JNCO E-1 to E-6	3 bdrm K&E E-9 FGO O-4 to O-5	4 bdrm GO O-7 to O10
CONSTRUCTION				
Cost Year	YR	2003	2003	2002
Programming Benchmark GSF	GSF	1,340	2,020	3,330
NSF	NSF	1,072	1,616	2,664
RS Means	SF	1,100	1,765	1,467
Base Cost	/NSF	$ 84.30	$ 71.25	$ 63.70
RS Means	SF	1,225	1,873	2,901
Base Cost	/NSF	$ 78.90	$ 69.70	$ 60.75
Base Cost	/NSF	$ 85.51	$ 73.39	$ 61.24
Siding adjustment	/NSF	$ 1.08	$ 1.08	$ 1.08
A/C adjustment	/NSF	$ 2.70	$ 2.70	$ 2.70
Adjusted price	/NSF	$ 89.29	$ 77.17	$ 65.02
Base Cost	**/unit**	**$ 95,720**	**$ 124,707**	**$ 173,211**
Number of additional baths	#	1	1	2
Additional full bath	/unit	$ 4,028	$ 4,028	$ 8,056
One-car attached garage	/unit	$ 8,462	$ 8,462	$ -
Two-car attached garage	/unit	$ -	$ -	$ 11,102
Cost	**/unit**	**$ 108,210**	**$ 137,197**	**$ 192,369**
Outer unit adjustment	%	100.00%	100.00%	100.00%
Location Factor	%	83.00%	83.00%	83.00%
Construction profit back-out	%	94.00%	94.00%	94.00%
Economy of Scale benefit	%	95.00%	95.00%	95.00%
Inflation	%	103.02%	103.02%	103.02%
Adjusted Cost		**$ 82,629**	**$ 104,763**	**$ 146,892**
USAF pro forma Input	**HC/GSF**	**$ 61.66**	**$ 51.86**	**$ 44.11**
Architect Fees		105%	105%	105%
USAF pro forma Input	**Inf/unit**	**$ 8,676**	**$ 11,000**	**$ 15,424**
RENOVATION				
USAF pro forma Input	**/unit**	**$ 61,971**	**$ 78,572**	**$ 110,169**
USAF pro forma Input	**Inf/unit**	**$ 6,507**	**$ 8,250**	**$ 11,568**
DEMOLITION				
USAF pro forma Input	**/unit**	**$ 5,000**	**$ 5,000**	**$ 5,000**

RS Means Square Foot Costs (22rd Edition) 2003 Residential - Average - 1 Story - Wood Siding (upgraded) - Wood Frame

Project Development Gap

- A Project Development Gap Occurs when:

  Project Costs (Uses) > Project Revenues (Sources)

- Preferred Development scope costs more than the BAH can support

- The concept of trade-offs enters the picture

Project Development Gap

- Project Uses (Costs):
  - Demolition, construction and renovation costs
  - Infrastructure – utilities upgrades/replacements
  - Community amenities – playgrounds, jogging path, etc.
  - Force protection – perimeter fencing, gate, etc.
  - Construction loan interest
  - Reserves
- Project Sources (Revenues):
  - Existing units rental income
  - Private Loan, Government Loan
  - Private Equity
- Project Development Gap

Common Constraints

- DCR: NOI can only support so much debt service, meaning NOI can support a limited amount of loan.

- Scoring Dollars: The project can only use as many scoring dollars as have been made available to the project.

- Private Loan Amount + Gov't Loan Amount + SO Equity = Project Financing: The project financing can only support so much construction and/or renovation.

What is the DCR?

- DCR = Debt Coverage Ratio
- DCR = NOI / Debt Service
- DCR = the ratio between the amount of money one has available to make debt payments (NOI) and the amount of money one actually owes as debt payments (debt service)
- Lenders look at this ratio to determine if there is adequate cash to make debt payments and to provide a cushion against project risks.

Calculating DCR

$$\text{DCR} = \frac{\text{NOI}}{\text{Debt Service}} = \frac{\$4,389,483}{\$4,212,394} = 1.04$$

*Illustrative Example

Sizing Debt

In Year 6, NOI decreases significantly because a number of units have been taken offline.

	2003 Year 1	2004 Year 2	2008 Year 6	2009 Year 7
NOI	**5,126,993**	**7,040,049**	**4,389,483**	**4,521,167**
Debt Service	(3,731,250)	(3,731,250)	(4,212,394)	(4,212,394)
DCR	1.37	1.89	1.04	1.07

In addition, Debt Service has increased because the 5-year interest-only period has ended and now the Borrower must make interest & principal payments.

As a result, Year 6 is the critical year in which the DCR is at its lowest. In this example, Year 6 is the year that Lenders will look at when "sizing" the debt.

Sizing Debt

A Lender that requires a minimum DCR of 1.20 would be willing to fund a loan up to approximately $43.25 million.

Loan #2: $43,250,000

Interest: 7.5%

	2008 Year 6	2008 Year 6	2008 Year 6
NOI	**4,389,483**	**4,389,483**	**4,389,483**
Debt Service	3,385,849	3,662,031	4,212,394
DCR	(1.30)	(1.20)	(1.04)

Loan #1: $40,000,000

Interest: 7.5%

Loan #3: $49,000,000

Interest: 7.5%

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
Page: 1 of 6

CASHFLOW SCHEDULE

Name	NPV at 5.10 %	CashFlow	2005	2006	2007
Construction Inflator			100.00 %	103.00 %	106.09 %
CASH					
Conveyed Property Proceeds	$0	$0	$0	$0	$0
NOI Rental Units	$339,014,102	$1,227,497,635	$11,880,246	$12,848,401	$13,533,404
Differential Payments	$0	$0	$0	$0	$0
Cash Income	$339,014,102	$1,227,497,635	$11,880,246	$12,848,401	$13,533,404
Assigned Developer Income	$0	$0	$0	$0	$0
First Mortgage Payment	($152,358,026)	($334,427,730)	($8,639,736)	($8,639,736)	($8,639,736)
CONST PERIOD ACCEPTANCE CRITERIA					
Developer Cash On Cash			0.00 %	0.00 %	0.00 %
First Mortgage DSC Percent	0.00 %	301.42 %			156.64 %

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
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CASHFLOW SCHEDULE

Name	2013	2014	2015	2016
Construction Inflator	126.68 %	130.48 %	134.39 %	138.42 %
CASH				
Conveyed Property Proceeds	$0	$0	$0	$0
NOI Rental Units	$14,860,630	$14,907,346	$14,394,352	$14,826,187
Differential Payments	$0	$0	$0	$0
Cash Income	$14,860,630	$14,907,346	$14,394,352	$14,826,187
Assigned Developer Income	$0	$0	$0	$0
First Mortgage Payment	($9,707,635)	($9,707,635)	($9,707,635)	($9,707,635)
Second Mortgage Payment	$0	$0	($3,503,950)	($3,503,950)
CONST PERIOD ACCEPTANCE CRITERIA				
Developer Cash On Cash	0.00 %	0.00 %	8.11 %	11.08 %
First Mortgage DSC Percent	153.08 %	153.56 %	148.28 %	152.73 %
Combined Mortgage DSC Percent			108.95 %	112.22 %
INVESTMENT RETURNS				
IRR#1 - DEVELOPER RETURN ON EQUITY				
Investment and Distribution	$0	$0	$1,182,767	$1,614,602

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
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CASHFLOW SCHEDULE

Name	2023	2024	2025	2026
Construction Inflator	170.24 %	175.35 %	180.61 %	186.03 %
CASH				
Conveyed Property Proceeds	$0	$0	$0	$0
NOI Rental Units	$18,234,337	$18,781,366	$19,344,807	$19,925,145
Differential Payments	$0	$0	$0	$0
Cash Income	$18,234,337	$18,781,366	$19,344,807	$19,925,145
Assigned Developer Income	$0	$0	$0	$0
First Mortgage Payment	($9,707,635)	($9,707,635)	($9,707,635)	($9,707,635)
Second Mortgage Payment	($3,503,950)	($3,503,950)	($7,609,872)	($7,609,872)
CONST PERIOD ACCEPTANCE CRITERIA				
Developer Cash On Cash	34.46 %	38.21 %	13.91 %	17.89 %
First Mortgage DSC Percent	187.84 %	193.47 %	199.27 %	205.25 %
Combined Mortgage DSC Percent	138.02 %	142.16 %	111.71 %	115.06 %
INVESTMENT RETURNS				
IRR#1 - DEVELOPER RETURN ON EQUITY				

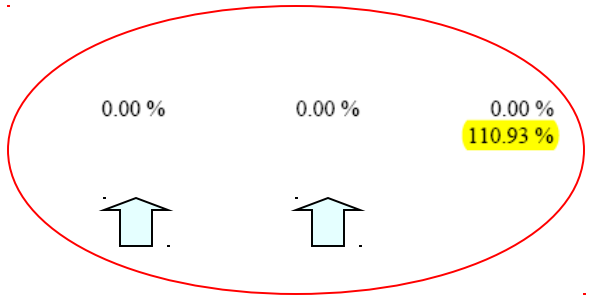
Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
Page: 1 of 6

CASHFLOW SCHEDULE

Name	NPV at 5.10 %	CashFlow	2005	2006	2007
Construction Inflator			100.00 %	103.00 %	106.09 %
CASH					
Conveyed Property Proceeds	$0	$0	$0	$0	$0
NOI Rental Units	$173,517,309	$667,367,978	$3,709,934	$4,344,787	$4,941,473
Differential Payments	$0	$0	$0	$0	$0
Cash Income	$173,517,309	$667,367,978	$3,709,934	$4,344,787	$4,941,473
Assigned Developer Income	$0	$0	$0	$0	$0
First Mortgage Payment	($78,551,458)	($172,421,410)	($4,454,402)	($4,454,402)	($4,454,402)
CONST PERIOD ACCEPTANCE CRITERIA					
Developer Cash On Cash			0.00 %	0.00 %	0.00 %
First Mortgage DSC Percent	0.00 %	327.82 %			110.93 %
Combined Mortgage DSC Percent					
INVESTMENT RETURNS					



What is OMB Scoring?

- OMB: The Office of Management and Budget

- Scoring: OMB scoring attempts to quantify the risk exposure faced by the Federal Government associated with utilizing the MHPI authorities. This is primarily an effort to quantify a future contingent liability to the Federal Government.

- Due to the fact that a future liability that becomes payable would affect that year's budget, the agency charged with implementing scoring the liability is OMB.

GDL & Scored Cost

Scenario 1:

Gov't Loan:

$19,725,428

Interest Only Period: 5 yrs @ 3.5% Interest

Amortization Period: 30 yrs @ 6.0% Interest

Scenario 2:

Gov't Loan:

$70,358,833

Interest Only Period: 10 yrs @ 1.1% Interest

Amortization Period: 30 yrs @ 3.0% Interest

Scoring at a Glance:

OMB calculates the subsidy rate based on Loan terms and default risk. This rate represents the % of the government loan that must be matched

Subsidy: 26.84%

Scoring: 26.84%*Loan Amt= $5.3 M

Subsidy: 54.4%

Scoring: 54.4%*Loan Amt= $38.3 M

*Illustrative Example

Pro Forma Example

USAF HOUSING MODEL

Scenario Page: 4

Scenario Name: FINANCE 101

Project Name: FINANCE 101

Schedule Name: LOAN INFORMATION

Printout Date: 4/2/2004

SECOND MORTGAGE

Percent of Debt Financing:	**50 %**
Calculation Type:	**Manual**
Amount:	**$116,798,350**
Loan Term (Years):	**40**
Deferral Period (Years):	**10**
Points	**0.00 %**
Initial Interest Rate:	**3.00 %**
Initial Interest Term:	**10**
Stepped Interest Rate:	**5.10 %**

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101

Project Name: FINANCE 101

Schedule Name: INFLATORS AND OPERATING INPUTS - RISK AND RECOVERY FACTORS / TREASURY RATES

Printout Date: 4/2/2004

RISKS AND RECOVERY FACTORS

Risk of Base Closure:	10.00 %
Base Closure Recoveries:	46.66 %
Risk Of Downsizing:	5.00 %
Percentage of Troop Reduction:	25.00 %
Downsizing Recoveries:	46.66 %
Risk of Deployment:	5.00 %
Percentage of Troops Deployed:	25.00 %
Deployment Recoveries:	46.66 %
Full Insurance Loss Risk:	17.00 %
Full Insurance Recoveries:	54.48 %

Pro Forma Example

USAF HOUSING MODEL

Scenario Name: FINANCE 101

Project Name: FINANCE 101

Schedule Name: SCORING

Printout Date: 4/2/2004

SECOND MORTGAGE

Loan Amount:	**$116,798,350**
Interest Subsidy:	**16.14 %**
Default Subsidy:	**11.54 %**
Total:	**27.68 %**

Interest Scoring:	**$18,847,969**
Default Scoring:	**$13,480,538**
Total:	**$32,328,507**

What is the Cash Waterfall?

- The Cash Waterfall depicts the prioritization of payment to various parties, accounts or expenses.

- A Cash Flow depicts the revenue and expenses for the project on an annual basis, structured to reflect the Cash Waterfall.

What is the Cash Waterfall?

- The terms ***senior*** and ***subordinated*** denote the relative position of two expenses.

- An expense is considered to be “senior” to another expense when it is higher on the Cash Waterfall, and therefore has a higher priority for payment.

- An expense is considered to be “subordinated” to an expense which is more senior. Subordinated expenses are lower on the Cash Waterfall, and therefore have a lower priority for payment.

Cash Waterfall: Flowing

	Payment	Balance
Revenue		$100
Expenses	45	$55
Private Loan Repayment	25	30
Direct Loan Repayment	14	16
Equity Preferred Return	10	6
Reinvestment Acct. Split	3	3
Equity Split	3	0

In this example, private loan repayment is ***senior*** to direct loan repayment, but ***subordinated*** to expenses.

Cash Waterfall: Dry

	Payment	Balance
Revenue		$80
Expenses	45	$35
Private Loan Repayment	25	10
Direct Loan Repayment	10	0
Equity Preferred Return	0	0
Reinvestment Acct. Split	0	0
Equity Split	0	0

In the event that there are insufficient funds to pay all parties, accounts and expenses, the cash waterfall determines which will have priority for payment, including, as shown above, whether payment is made at all.

Pro Forma Example

USAF HOUSING MODEL

Scenario Page: 20

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
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REVENUE AND EXPENSE BY CONSTRUCTION TYPE

TOTAL UNITS	
Actual Rent Revenue	$655,630,065
Insurance	($42,497,854)
Property Management	($19,165,700)
Operations and Maint.	($106,661,280)
Utilities	($31,665,065)
Other Expenses	($7,499,624)
Taxes	($58,845,815)
Total Expenses	($266,335,338)
Replacement Reserves	($17,499,118)
Vacancy Loss	($32,781,506)
Net Operating Income	$339,014,102

Pro Forma Example

USAF HOUSING MODEL **Scenario Page: 29**

Scenario Name: FINANCE 101
Printout Date: 4/2/2004
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Name	2033
Construction Inflator	228.79 %
CASH	
Conveyed Property Proceeds	$0
NOI Rental Units	$24,505,418
Differential Payments	$0
Cash Income	$24,505,418
Assigned Developer Income	$0
First Mortgage Payment	($9,707,635)
Second Mortgage Payment	($7,609,872)
Refinanced First Mortgage Payment	0
Cash Available(Deficit)	$7,187,911
ENDING CASH	
Cash Available	$7,187,911
Cash Available Used for Const.	0
Cash Available Used for Dev. Fee	$0
Net Cash Available for Distribution	$7,187,911
Equity Investor Preferred Return	$1,166,138
Deposit to Reinvestment Account	($3,010,887)
Additional Equity Distribution	$3,010,886

Page Two

- The “quick reference” pro forma page answers
- How many units are we conveying?
- What is the “End State”?
- How big is the project in $$$?
- What is the scoring?
- How much are the loans?